From: Miller, Garyg
To: Hayter, Earl J ERDC-RDE-EL-MS; Paul R Schroeder (Paul.R.Schroeder@erdc.dren.mil)
Cc: Turner, Philip
Subject: FW: Dioxin Consultation for the St. Regis Site - CONFIDENTIAL, DO NOT CITE, QUOTE, OR DISTRIBUTE
Date: Tuesday, January 06, 2015 5:13:00 PM
Attachments: St. Regis MN Consultation 12-30-14.docx

FYI – EPA position on relative bioavailability (RBA) factors.

Thanks,

Gary Miller
EPA Remedial Project Manager
214-665-8318
miller.garyg@epa.gov

From: Berg, Marlene
Sent: Tuesday, January 06, 2015 1:42 PM
To: Logan, Mary; Miller, Garyg
Cc: Patterson, Leslie; Scozzafava, MichaelE
Subject: Fw: Dioxin Consultation for the St. Regis Site - CONFIDENTIAL, DO NOT CITE, QUOTE, OR DISTRIBUTE

Mary, I imagine that you have seen this, but I wanted to share this with a few folks, before I do so with my dioxin workgroup.

And, Gary, this is the consultation that I had been talking about on the phone.
Let me know if you have any questions and I'd be happy to answer them. Please email me initially as I am off-site and have a problem with my voicemails.
Marlene

From: Scozzafava, MichaelE
Sent: Tuesday, January 6, 2015 11:29 AM
To: Tanaka, Joan; Patterson, Leslie
Cc: Berg, Marlene; Turner, David; Ammon, Doug; Stalcup, Dana; Cooper, DavidE; Burgess, Michele
Subject: Dioxin Consultation for the St. Regis Site

Joan and Leslie,
We appreciate consulting with Region 5 on the development of proposed dioxin soil cleanup levels at the St. Regis site in Minnesota. Our review of the draft September 8, 2014, Feasibility Study (FS) Addendum finds the proposed site-specific PRGs are protective for residential and commercial/industrial use. We did, however, identify a number of concerns with the risk calculations that are discussed below.
Our review of the FS addendum was conducted in light of new dioxin information available since the June 2011 proposed plan. New dioxin information includes, notably, the 2012 IRIS reference dose

(RfD) for TCDD and new guidance on developing site-specific relative bioavailability (RBA) exposure factors for dioxin in soil.

A non-cancer PRG, using the 2012 RfD published in IRIS along with an RBA of 1.0, per existing Superfund RBA guidance, equates to 69 ppt for residential use and 803 ppt for commercial/industrial use. These PRGs reflect an HI of 1 and are within the acceptable cancer risk range of 1.9E-05 for residential use and 3.8E-05 for commercial/industrial use (per EPA's HEAST cancer slope factor (CSF) for TCDD). See Attachment A for hazard indices and cancer risks associated with these calculated PRGs.

Based on an evaluation of the St. Regis 2008 Human Health and Ecological Risk Assessment (HHERA), we cannot support the use of the site-specific RBA of 0.5, used to develop the proposed PRGs, because it does not conform to current EPA guidance. This RBA value was derived based on Ruby et al[1], in which a site-specific RBA study was conducted using soils from Michigan. Based on Superfund science policy[2] that is available today, we would have conducted the risk assessment using a default RBA of 1.0. As such, we recommend that future site-specific RBAs be developed using information found at the Superfund dioxin website (http://epa.gov/superfund/health/contaminants/dioxin/dioxinsoil.html) with support provided by OSRTI and the Technical Review Workgroup (TRW) Bioavailability Subcommittee. Existing guidance[2] at this link recommends, in the absence of sufficient site-specific data, the use of a default RBA of 1.0 in risk assessments. Site-specific data must include, at a minimum, the evaluation of soil samples collected at the site. This same guidance applies to the development of site-specific PRGs for PAHs, where the St. Regis HHERA also applies a non-site-specific RBA value of less than one.

While we cannot support the site-specific RBA of 0.5 in light of current policy and guidance, we do support the FS Addendum proposed PRGs of 63 ppt and 380 ppt. These PRGs are more stringent than our calculation of revised updated PRGs (of 69 ppt and 803 ppt), and reflect an HI of 0.49 for residential and an HI of 0.27 for commercial/industrial use, and a cancer risk of 1E-05 for residential and commercial/industrial use (based on the RfD and HEAST CSF, respectively). See Attachment A for hazard indices and cancer risks associated with the proposed PRGs. As such, the proposed FS Addendum PRGs of 63 ppt and 380 ppt are considered protective for cancer risks and non-cancer effects.

We want to thank you for the opportunity to work together in reaching the conclusion that the proposed PRGs for residential and commercial/industrial use are protective. We especially appreciate Region 5's extensive involvement and responsiveness as we worked through this consultation. Please note that our statement completes the dioxin consultation for the St. Regis site. If you have any questions, please don't hesitate to contact me or Marlene Berg of my staff.

Sincerely,

Mike

Michael Scozzafava, Chief
Science Policy Branch
OSRTI, OSWER
p: 703-603-8833
cell: 202-407-2555

[1] Ruby MV, Fehling KA, Paustenbach DJ, et al. 2002. Oral bioaccessibility of dioxins/furans at low concentrations

(50-350 ppt toxicity equivalent) in soil. Environ Sci Technol 36(22):4905–4911.

[2]EPA. Final Report - Bioavailability of Dioxins and Dioxin-Like Compounds in Soil. U.S. Environmental Protection Agency, Office of Superfund Remediation and Technology Innovation. December 20, 2010. Available on-line at:http://epa.gov/superfund/health/contaminants/dioxin/pdfs/Final_dioxin_RBA_Report_12_20_10.pdf

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[1]Ruby MV, Fehling KA, Paustenbach DJ, et al. 2002. Oral bioaccessibility of dioxins/furans at low concentrations (50-350 ppt toxicity equivalent) in soil. Environ Sci Technol 36(22):4905–4911.

[2]EPA. Final Report - Bioavailability of Dioxins and Dioxin-Like Compounds in Soil. U.S. Environmental Protection Agency, Office of Superfund Remediation and Technology Innovation. December 20, 2010. Available on-line at:http://epa.gov/superfund/health/contaminants/dioxin/pdfs/Final_dioxin_RBA_Report_12_20_10.pdf